

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Part 90	)	WT Docket No. 07-100
of the Commission's Rules	)	

**COMMENTS OF RADIOSOFT**

RadioSoft generally supports the Commission's proposals. It asks that Part 90, with respect to Public Safety coordination, be revised so that Rule is conformed to practice, that §90.187 be rewritten to accommodate new trunking technologies, and that certain changes be implemented in the ULS and its supporting database to promote spectrum efficiency and the public interest.

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## **RadioSoft**

RadioSoft is a software and service firm in Toccoa, Georgia. It is author and maintainer of ComStudy, the computer program for service and interference calculation and frequency nomination used by all Public Safety Certified Frequency Coordination Committees (FACs), most I/B FACs and most Federal Governmental entities, including the Commission. It is also host to RS/AASHTO, a service firm which is the subcontractor performing all coordination work for AASHTO, one of the four public safety FACs. It participates in the PSCC, LMCC and NPSTC, is a member of AFCCE, APCO and RCA and its qualifications are a matter of record at the Commission. It is aware that AASHTO and NPSTC are filing comments in this proceeding, and insofar as no discussion of any issue is here presented, is in support of those comments. These comments represent both RadioSoft and RS/AASHTO.

## **Frequency Coordination and Related Matters.**

### The “New Haven” Waiver

While applications for new and modified Part 90 stations require frequency coordination before the application is submitted to the Commission, certain applications are exempt from the requirement. The

Commission proposes to expand the circumstances where coordination is not required. RadioSoft argues that in only one case should this be approved: that of replacing wideband analog voice with narrowband analog voice. In all other cases, especially with the addition or deletion of any emission type which could permit digital operation, significant potential for changes in interference signature exists. Since emission designators are insufficient to determine interference potential, applicants cannot be expected to judge the effect of their proposed changes.

#### Trunking and §90.187

§90.187 describes protections afforded to all co-channel incumbents from proposed trunked facilities, and protections also to adjacent non-trunked incumbents. RadioSoft and Motorola were tasked by LMCC to draft a suggest re-write of this Rule to deal with new digital technologies. Whereas it remains desirable to encourage trunked uses by limiting adjacent channel incumbent protections, it is RadioSoft's view that these limits are, with respect to "super-narrowband" technologies (7.5 kHz and 6.25 kHz centers with > 2kHz deviation), contrary to the public interest and would significantly impede progress in refarming and spectrum efficiency. Additionally, it wishes to address provision of new TDMA and other technologies, and the oversight of specifying protection to incumbent trunked facilities from proposed adjacent channel trunked systems. Since the current Rule, in allowing the new super-narrowband trunked facilities without

protecting 12.5 kHz adjacents, strongly discourages migration to 12.5 kHz technology and drastically penalizes those who have already done so, it \*must\* be rewritten.

Adjacent channel calculations are neither simple nor in many cases intuitive, and cannot easily be expressed by Rule. Moreover, it is unrealistic to expect a revised Rule to continuously conform as new technologies emerge. As one of the contributors to the TIA TSB-88 project, we have found in practice that this standard provides the best guide to Public Safety frequency coordination. The PSCC in its August 2006 meeting (affirmed in February 2007) chose this methodology for all its coordinations below 512 MHz. RadioSoft therefore recommends that adjacent channel trunking protections for Public Safety (and arguable for I/B coordination as well, though that is not our area of expertise) be left to a consensus of the respective pools of coordinators. FACs are under constant pressure to accommodate new technologies and exchange testing data with manufacturers and safeguard incumbents, and can be expected to find solutions best unencumbered by requiring conformity to a rulemaking process. We do not here propose specific language, but will address the LMCC comments in Reply.

#### Conforming Rule to Practice

Whereas in §90.187 we find that adjacent channel trunking protections should be left to a consensus to avoid complexity and latency in

introducing new technology, other Public Safety coordination practices would benefit by being specified by Rule. We refer not only to the interference calculations of TSB-88, but such practices as the requirement of a five business day notification before filing with FCC, to allow expressions of objections, concerns and concurrence by other coordinators. To date, this very successful practice has been applied only to those applicants specifying frequencies in either the general pool or those outside of the pool of the applicable coordinator. In other words, if an applicant chooses AASHTO as its FAC, and AASHTO proposes only frequencies formerly in the highway pool (“PH”), it would neither be subject to the five-day notification requirement nor to objection by other coordinators. We propose that the current practice be afforded protection by Rule, and we further propose that all coordinations would be well-served by being included. In support of this proposal, we note that we (as RS/AASHTO) have many customers using channels in other services whose interests might be better represented by exposing all coordinations to general scrutiny, and that the generally laudable “Autogrant” initiative at the Commission can leave little room to petition for redress in such cases. We do not propose to require any action on the part of a non-proposing coordinator, only to permit it.

The PSCC decision to use TSB-88 for all coordinations below 512 MHz should also be supported by Rule. In specific, we agreed that, using TSB-88 interference methodology, if any proposed coordination shows an

excess of 5% (by area) of interference to either the proposed or an incumbent protected service area, it must be accompanied by engineering exhibits and a justification submitted by the proposing coordinator. By contrast, should an objection be lodged by any coordinator in which less than 5% by area is observed, similar documentation and exhibits must be provided.

Lastly, the PSCC by consensus has agreed that all notified applications receive 90 days protection from mutually exclusive applications by other FACs. This covers the case where Letters of Concurrence (“LOC”) may be required, the negotiations for which may expose an Applicant to a competing filing. We argue that this practice should, for Public Safety coordinations, also be codified by Rule.

#### **4.9 GHz Point-to-Point Secondary Designation**

RadioSoft agrees with MA/COM that so long as point-to-point service in the 4.9 GHz band is fully in support of traffic in that service, it should be afforded primary designation. Additionally, we propose that a data element be added to ULS for such secondary characterizations, or that an existing field be regularly used as such.

#### **ULS Considerations**

RadioSoft has for years argued that certain common data elements

be better utilized by the FCC's Universal Licensing System. A single byte flag denoting secondary service would not only clarify assignments in the 4.9 GHz band, but would greatly assist the public (by definition) and the coordinators (programmatically) to understand and process applications in all bands. Secondary service is understood in many cases ("Mobile-only" comes to mind) but lacks careful definition by Rule and implementation in the ULS data structures. The Rules should be clarified and the data included and published.

We note that there is provision in the data structures for defining directional antenna patterns, specifying antenna type, orientation and beam tilt, but that for Part 90 this information is largely unused and in any case not published in the publicly available ULS output datafiles (excepting Part 22). We ask that this be corrected, as protection by directional antenna is becoming increasingly common with maturing spectrum. Applicants should be able to define a "standard" antenna by database reference and specify orientation (and mechanical beam tilt, if any), or define their own pattern, just as is currently permitted by the FCC's CDBS for Part 73.

Other ULS improvements which would much improve frequency coordination practice would be the addition of data fields to specify PL/DPL/CTCSS information, and by reference those mobiles associated with base facilities (especially in VHF). While frequency pairing in UHF/T-Band/800 is normally defined, in VHF this information is often not publicly

available. A VHF FB2 repeater is used as a system, and should be referenced, licensed and protected as a system. We know of many cases where it is impossible to determine what the input frequency to a repeater might be from the data available to us.

### **Editorial Amendments**

In the NPRM §D.30 (3), we were unable to find any reference to §90.20(d)(19) and therefore assume that (d)(29) is to be added to (d)(13) and (d)(30) rather than substituting for an existing exception.

### **Conclusion**

RadioSoft is here proposing several items not included in the Commissions 07-100 NPRM. It does so not only from long-standing need for addressing some of these issues (particularly directional antennae), but after being advised at the FCC's 2007 meeting with coordinators that this was an appropriate forum in which to do so. We realize that some of the questions raised here may require further policy considerations and debate beyond that afforded by the Reply Comment period, but we urge that their importance begs for inclusion and such further measures as may be required for considered action..

Respectfully submitted,

/s Peter Moncure, VP  
RadioSoft and RS/AASHTO

8910 Dick's Hill Parkway  
Toccoa, GA 30577  
888.601.FORM or 706.754.2725

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